

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application Of: Shim, et al.

Group No.: TBD

Serial No.: 10/550,525

International Application No.: PCT/US04/09570

Docket No. 050508-1370

International Filing Date: March 26, 2004

For: **CXCR4 Antagonists and Methods of Their Use**

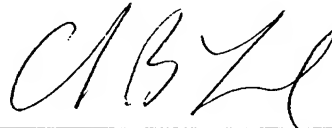
**STATEMENT REGARDING SEQUENCE LISTING COMPLYING WITH**  
**STANDARD**

Commissioner for Patents  
Mail Stop Sequence Listing  
PO Box 1450  
Alexandria, VA 22313-1450

Sir:

The information recorded in computer readable form on the attached disk is identical to the written (on paper) sequence listing of the above-referenced application.

Respectfully submitted,



Christopher B. Linder; Reg. No. 47,751  
Attorney for Applicant

**THOMAS, KAYDEN, HORSTEMEYER  
& RISLEY, L.L.P.**  
Suite 1750  
100 Galleria Parkway, N.W.  
Atlanta, GA 30339-5948  
Telephone: (770) 933-9500  
Facsimile: (770) 951-0933

# SEQUENCE LISTING

<110> Emory University  
 <120> CXCR4 Antagonists and Methods of Their Use  
 <130> 50508-1370  
 <140> 2520406  
 <141> 2004-03-26  
 <160> 20  
 <170> PatentIn version 3.3  
 <210> 1  
 <211> 14  
 <212> PRT  
 <213> Artificial  
 <220>  
 <223> sequence of T140  
 <220>  
 <221> MISC\_FEATURE  
 <222> (3)..(3)  
 <223> X = Nal  
 <220>  
 <221> MISC\_FEATURE  
 <222> (8)..(8)  
 <223> X = dLys  
 <220>  
 <221> MISC\_FEATURE  
 <222> (12)..(12)  
 <223> X = Cit  
 <400> 1  
 Arg Arg Xaa Cys Tyr Arg Lys Xaa Pro Tyr Arg Xaa Cys Arg  
 1 5 10  
 <210> 2  
 <211> 14  
 <212> PRT  
 <213> Artificial  
 <220>  
 <223> sequence of TN14003  
 <220>  
 <221> MISC\_FEATURE  
 <222> (3)..(3)

<223> X = Nal

<220>

<221> MISC\_FEATURE

<222> (6)..(6)

<223> X = Cit

<220>

<221> MISC\_FEATURE

<222> (8)..(8)

<223> X = dLys

<220>

<221> MISC\_FEATURE

<222> (12)..(12)

<223> X = Cit

<400> 2

Arg Arg Xaa Cys Tyr Xaa Lys Xaa Pro Tyr Arg Xaa Cys Arg  
1 5 10

<210> 3

<211> 18

<212> PRT

<213> Artificial

<220>

<223> sequence of T22

<400> 3

Arg Arg Trp Cys Tyr Arg Lys Cys Tyr Lys Gly Tyr Cys Tyr Arg Lys  
1 5 10 15

Cys Arg

<210> 4

<211> 21

<212> DNA

<213> Artificial

<220>

<223> cDNA sequence segments of CXCR4

<400> 4

aataaaatct tcctgcccac c

21

<210> 5

<211> 21

<212> DNA

<213> Artificial

<220>  
 <223> cDNA sequence segments of CXCR4  
  
 <400> 5  
 aaggaagctg ttggctgaaa a 21  
  
 <210> 6  
 <211> 19  
 <212> DNA  
 <213> Artificial  
  
 <220>  
 <223> CXCR4 cDNA target sequence  
  
 <400> 6  
 taactacacc gaggaatg 19  
  
 <210> 7  
 <211> 19  
 <212> DNA  
 <213> Artificial  
  
 <220>  
 <223> CXCR4 cDNA target sequence  
  
 <400> 7  
 tcttcttaac tggcattgt 19  
  
 <210> 8  
 <211> 19  
 <212> DNA  
 <213> Artificial  
  
 <220>  
 <223> CXCR4 cDNA target sequences  
  
 <400> 8  
 tctttgccaa cgtcagtga 19  
  
 <210> 9  
 <211> 19  
 <212> DNA  
 <213> Artificial  
  
 <220>  
 <223> CXCR4 cDNA target sequences  
  
 <400> 9  
 gtttcagcac atcatggtt 19  
  
 <210> 10

<211> 19  
 <212> DNA  
 <213> Artificial  
  
 <220>  
 <223> CXCR4 cDNA target sequence  
  
 <400> 10  
 catcatgggtt ggccttatc 19

<210> 11  
 <211> 19  
 <212> DNA  
 <213> Artificial  
  
 <220>  
 <223> CXCR4 cDNA target sequences  
  
 <400> 11  
 tcctgcctgg tattgtcat 19

<210> 12  
 <211> 19  
 <212> DNA  
 <213> Artificial  
  
 <220>  
 <223> CXCR4 cDNA target sequences  
  
 <400> 12  
 tcctgtcctg ctattgcat 19

<210> 13  
 <211> 19  
 <212> DNA  
 <213> Artificial  
  
 <220>  
 <223> CXCR4 cDNA target sequences  
  
 <400> 13  
 gcatcgactc cttcatcct 19

<210> 14  
 <211> 19  
 <212> DNA  
 <213> Artificial  
  
 <220>  
 <223> CXCR4 cDNA target sequences  
  
 <400> 14  
 ggaaagcgag gtggacatt 19

<210> 15  
<211> 25  
<212> DNA  
<213> Artificial

<220>  
<223> siRNA

<400> 15  
aauaaaaucu uccugcccac cdttdt

25

<210> 16  
<211> 25  
<212> DNA  
<213> Artificial

<220>  
<223> siRNA

<400> 16  
aaggaagcug uuggcugaaa adtdt

25

<210> 17  
<211> 20  
<212> DNA  
<213> Artificial

<220>  
<223> CXCR4-specific primers

<400> 17  
gaaccctgtt tccgtgaaga

20

<210> 18  
<211> 20  
<212> DNA  
<213> Artificial

<220>  
<223> CXCR4-specific primers

<400> 18  
cttgtccgtc atgcttctca

20

<210> 19  
<211> 20  
<212> DNA  
<213> Artificial

<220>  
<223> primer

<400> 19  
gacaggatgc agaaggagat

20

<210> 20  
<211> 20  
<212> DNA  
<213> Artificial

<220>  
<223> primer

<400> 20  
tgcttgctga tccacatctg

20

Sequence Listing.ST25  
SEQUENCE LISTING

<110> Emory University  
 <120> CXCR4 Antagonists and Methods of Their Use  
 <130> 50508-2331  
 <140> 2520406  
 <141> 2004-03-26  
 <160> 20  
 <170> PatentIn version 3.3  
 <210> 1  
 <211> 14  
 <212> PRT  
 <213> Artificial  
 <220>  
 <223> sequence of T140  
 <220>  
 <221> MISC\_FEATURE  
 <222> (3)..(3)  
 <223> X = NaI  
 <220>  
 <221> MISC\_FEATURE  
 <222> (8)..(8)  
 <223> X = dLys  
 <220>  
 <221> MISC\_FEATURE  
 <222> (12)..(12)  
 <223> X = Cit  
 <400> 1  
 Arg Arg Xaa Cys Tyr Arg Lys Xaa Pro Tyr Arg Xaa Cys Arg  
 1 5 10  
 <210> 2  
 <211> 14  
 <212> PRT  
 <213> Artificial  
 <220>  
 <223> sequence of TN14003  
 <220>  
 <221> MISC\_FEATURE  
 <222> (3)..(3)  
 <223> X = NaI  
 <220>  
 <221> MISC\_FEATURE  
 <222> (6)..(6)  
 <223> X = Cit



# Sequence listing.ST25

<220>  
 <221> MISC\_FEATURE  
 <222> (8)..(8)  
 <223> X = dLys

<220>  
 <221> MISC\_FEATURE  
 <222> (12)..(12)  
 <223> X = Cit

<400> 2

Arg Arg Xaa Cys Tyr Xaa Lys Xaa Pro Tyr Arg Xaa Cys Arg  
 1 5 10

<210> 3  
 <211> 18  
 <212> PRT  
 <213> Artificial

<220>  
 <223> sequence of T22

<400> 3

Arg Arg Trp Cys Tyr Arg Lys Cys Tyr Lys Gly Tyr Cys Tyr Arg Lys  
 1 5 10 15

Cys Arg

<210> 4  
 <211> 21  
 <212> DNA  
 <213> Artificial

<220>  
 <223> cDNA sequence segments of CXCR4

<400> 4  
 aataaaatct tcctgcccac c

21

<210> 5  
 <211> 21  
 <212> DNA  
 <213> Artificial

<220>  
 <223> cDNA sequence segments of CXCR4

<400> 5  
 aaggaagctg ttggctgaaa a

21

<210> 6  
 <211> 19  
 <212> DNA  
 <213> Artificial

## Sequence Listing.ST25

```

<220>
<223> CXCR4 cDNA target sequence

<400> 6
taactacacc gaggaatg 19

<210> 7
<211> 19
<212> DNA
<213> Artificial

<220>
<223> CXCR4 cDNA target sequence

<400> 7
tcttcttaac tggcattgt 19

<210> 8
<211> 19
<212> DNA
<213> Artificial

<220>
<223> CXCR4 cDNA target sequences

<400> 8
tctttgccaa cgtcagtga 19

<210> 9
<211> 19
<212> DNA
<213> Artificial

<220>
<223> CXCR4 cDNA target sequences

<400> 9
gtttcagcac atcatgggtt 19

<210> 10
<211> 19
<212> DNA
<213> Artificial

<220>
<223> CXCR4 cDNA target sequence

<400> 10
catcatgggtt ggccttatc 19

<210> 11
<211> 19
<212> DNA
<213> Artificial

<220>
<223> CXCR4 cDNA target sequences

```

# Sequence listing.ST25

<400> 11 tcctgcctgg tattgtcat	19
<210> 12 <211> 19 <212> DNA <213> Artificial	
<220> <223> CXCR4 cDNA target sequences	
<400> 12 tcctgtcctg ctattgcat	19
<210> 13 <211> 19 <212> DNA <213> Artificial	
<220> <223> CXCR4 cDNA target sequences	
<400> 13 gcatcgactc cttcatcct	19
<210> 14 <211> 19 <212> DNA <213> Artificial	
<220> <223> CXCR4 cDNA target sequences	
<400> 14 ggaaagcgag gtggacatt	19
<210> 15 <211> 25 <212> DNA <213> Artificial	
<220> <223> siRNA	
<400> 15 aauaaaau cu uccugcccac cdt dt	25
<210> 16 <211> 25 <212> DNA <213> Artificial	
<220> <223> siRNA	
<400> 16 aaggaagcug uuggcugaaa adtdt	25

# Sequence listing.ST25

<210> 17  
 <211> 20  
 <212> DNA  
 <213> Artificial

<220>  
 <223> CXCR4-specific primers

<400> 17  
 gaaccctggt tccgtgaaga 20

<210> 18  
 <211> 20  
 <212> DNA  
 <213> Artificial

<220>  
 <223> CXCR4-specific primers

<400> 18  
 cttgtccgtc atgcttctca 20

<210> 19  
 <211> 20  
 <212> DNA  
 <213> Artificial

<220>  
 <223> primer

<400> 19  
 gacaggatgc agaaggagat 20

<210> 20  
 <211> 20  
 <212> DNA  
 <213> Artificial

<220>  
 <223> primer

<400> 20  
 tgcttgctga tccacatctg 20

IMATION

Revised Sequence Listing  
10/580, 525

**FLAT RATE ENVELOPE**  
FLAT RATE POSTAGE  
REGARDLESS OF WEIGHT  
DOMESTIC USE ONLY

**EXTREMELY URGENT**

**Please Rush To Addressee**

**CALL 1-800-222-1811 FOR PICKUP OR TRACKING OF ALL YOUR PACKAGES**



# EXPRESS MAIL

UNITED STATES POSTAL SERVICE<sup>®</sup> (13)

**EXPRESS MAIL**

UNITED STATES POLICE

CORPORATE

**POSTAGE AND FEES**

[www.usps.com](http://www.usps.com)



SV 749201497 US

**Mailing Label**  
Label 11-F, April 2004



**EXPRESS MAIL**

UNITED STATES POSTAL SERVICE®

Post Office To Addressee

ORIGIN (POSTAL SERVICE USE ONLY)				DELIVERY (POSTAL USE ONLY)			
PO ZIP Code		Day of Delivery <input type="checkbox"/> Next <input type="checkbox"/> 2nd <input type="checkbox"/> 3rd Day Scheduled Date of Delivery		Postage \$		Delivery Attempt <input type="checkbox"/> AM <input type="checkbox"/> PM	
Date Accepted		Month Day Scheduled Time of Delivery <input type="checkbox"/> Noon <input type="checkbox"/> 3 PM		Return Receipt Fee \$		Employee Signature	
Mo. Day Year Time Accepted <input type="checkbox"/> AM <input type="checkbox"/> PM		<input type="checkbox"/> Military <input type="checkbox"/> 2nd Day <input type="checkbox"/> 3rd Day Int'l Alpha Country Code		Insurance Fee \$		Employee Signature	
Flat Rate <input type="checkbox"/> or Weight		Total Postage & Fees \$		Acceptance Emp. Initials		Employee Signature	
lbs. ozs.							

CUSTOMER USE ONLY	
METHOD OF PAYMENT: Express Mail Corporate Acct. No. <b>X301897</b>	Federal Agency Acct. No. or Postal Service Acct. No.

FROM: (PLEASE PRINT)	TO: (PLEASE PRINT)
THOMAS, KAYDEN, HORSTMAYER, & KRISLEY 100 GALLERIA PKWY SE STE 1750 ATLANTA GA 30339-5961	Commissioner for Patents Mail Stop: PCT (DO/EO/US) P.O. Box 1450 Alexandria, VA 22313-1450

FROM: (PLEASE PRINT)	TO: (PLEASE PRINT)
THOMAS, KAYDEN, HORSTMAYER, & KRISLEY 100 GALLERIA PKWY SE STE 1750 ATLANTA GA 30339-5961	Commissioner for Patents Mail Stop: PCT (DO/EO/US) P.O. Box 1450 Alexandria, VA 22313-1450

PRESS HARD. YOU ARE MAKING 3 COPIES.

050508-1370(SAE/CAL)

CALL 1-800-222-1811 FOR PICKUP OR TRACKING OF ALL YOUR PACKAGES



UNITED STATES POSTAL SERVICE®



UNITED STATES POSTAL SERVICE®

POSTAGE AND FEES PAID

Label 108  
May 2000

WWW.USPS.COM



EV 861590400 US

Mailing Label  
Label 11-F, April 2004



UNITED STATES POSTAL SERVICE®

Post Office To Addressee

ORIGIN (POSTAL SERVICE USE ONLY)		DELIVERY (POSTAL SERVICE USE ONLY)	
PO ZIP Code	Day of Delivery <input type="checkbox"/> Next <input type="checkbox"/> 2nd <input type="checkbox"/> 2nd Del Day	Delivery Attempt	Time <input type="checkbox"/> AM <input type="checkbox"/> PM
Date Accepted	Scheduled Date of Delivery	Mo. Day	Employee Signature
Mo. Day Year	Month Day	Delivery Attempt	Time <input type="checkbox"/> AM <input type="checkbox"/> PM
Time Accepted	Scheduled Time of Delivery	Mo. Day	Employee Signature
Flat Rate <input type="checkbox"/> or Weight	<input type="checkbox"/> Noon <input type="checkbox"/> 3 PM	Delivery Date	Time <input type="checkbox"/> AM <input type="checkbox"/> PM
Flat Rate <input type="checkbox"/> or Weight	<input type="checkbox"/> 2nd Day <input type="checkbox"/> 3rd Day	Mo. Day	Employee Signature
Flat Rate <input type="checkbox"/> or Weight	Int'l Alpha Country Code	Delivery Date	Time <input type="checkbox"/> AM <input type="checkbox"/> PM
Flat Rate <input type="checkbox"/> or Weight	Int'l Alpha Country Code	Mo. Day	Employee Signature
Flat Rate <input type="checkbox"/> or Weight	Int'l Alpha Country Code	Delivery Date	Time <input type="checkbox"/> AM <input type="checkbox"/> PM
Flat Rate <input type="checkbox"/> or Weight	Int'l Alpha Country Code	Mo. Day	Employee Signature

CUSTOMER USE ONLY	
METHOD OF PAYMENT: Express Mail Corporate Acct. No. <b>X301897</b>	
FROM: (PLEASE PRINT) <b>THOMAS, KAYDEN, HORSTMAYER, &amp; RISLEY</b> <b>100 GALLERIA PKWY SE STE 1750</b> <b>ATLANTA GA 30339-5961</b>	TO: (PLEASE PRINT) <b>Mail Stop: Pct (Dolehouse)</b> <b>Commissioner for Patents</b> <b>P.O. Box 1450</b> <b>Alexandria, VA 22313-1450</b>
PHONE <b>770, 933 9500</b>	PHONE <b>any</b>

(Signature) 5008-1370

FOR PICKUP OR TRACKING: Visit [www.usps.com](http://www.usps.com) or Call 1-800-222-1811

367/ 500 F:02 T:

This packaging is the property of the U.S. Postal Service and is provided solely for use in sending Express Mail. Misuse may be a violation of federal law.





Filed/Date Mailed: September 22, 2005  
Applicant: Shim et al.  
Docket #: 050508-1370  
Title: CXCR4 Antagonists and Methods of Their Use  
EM #: EV628221771US

Due Date: September 27, 2005  
PCT #: PCT/US2004/009570  
Parent Applic.:

**PATENT AND TRADEMARK OFFICE  
(RECEIVING OFFICE) STAMP  
HEREON ACKNOWLEDGES RECEIPT  
OF THE BELOW IDENTIFIED  
APPLICATION AND PAPERS:**

**USPTO STAMP**

**10/550525**

Fees:  
Pymt  
Form

☒ Express Cert. of Mailing  
☒ Fees: \$440.00  
☐ Check  
☐ Dep. Acct:  
☐ Fee Calculation Sheet

☐ PCT/RO/101 ( ) Pages  
☐ PCT Application Consisting of:  
Pages of Specification  
Pages of Claims  
1 Page of Abstract  
Pages of Dwgs.  
☐ Formal ☐ Informal

☐ Article 19 Amendment Including:  
☐ Article 34 Amendment Including:  
☐ Explanation of Replac. Pgs.  
☐ Replacement Pages ( )  
☐ Other:

☐ Demand - Article 31 Including:  
☐ Demand for Chapter II  
☐ Copy of filed Art. 19/34 Amd.  
☐ Other:

☐ Response to Written Opinion  
☐ Explanation of Replac. Pgs.  
☐ Replacement Pages ( )

☒ Other: Copy of Sequence Listing Ver.; PCT Request; Credit Card Fm.;  
Preliminary Amendment; Seq. Listing Diskette  
Person Mailing: LLO  
Responsible Atty: CBL

☐ General Appointment  
☐ Pow. of Att. ☐ Orig. ☐ Copy

☐ Response to Invitation to  
Correct Defects Including:  
☐ Replacement Pages ( )  
☐ Specification ( )  
☐ Claims ( )  
☐ Abstract  
☐ Formal Drawings ( )  
☐ Identify Serial Number  
☐ 1<sup>st</sup> Prior. ☐ 2<sup>nd</sup> Prior.  
☐ Declaration/Power Attorney  
☐ Original ☐ Copy

☒ US Designated/Elected Office  
☒ 1<sup>st</sup> Subm. ☐ 2<sup>nd</sup> Subm.  
☐ Copy of Intern'l Application  
☐ Amend't to Claims ( )  
☐ Copy Int'l SX Report  
☐ Oath/Declaration  
☒ Other: PCT/IPEA/402;  
PCT/IB/301; Not. Re: Decl.  
Responsible Atty: CBL

**JC04 Rec'd PCT/PTO 22 SEP 2005**